ATLANTIC PROVINCES ECONOMIC COUNCIL

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Report Card

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Energy Drives Atlantic Canada's Greenhouse Gas Emissions

Atlantic Canada's greenhouse gas (GHG) emissions, estimated at 49 megatonnes of CO_2 equivalent in 2006, the most recent year for which data are available, are 6% above 1990 levels, compared with a 21% increase nationally. The Kyoto Protocol called on Canada to reduce its GHG emissions 6% below 1990 levels by 2008-2012. Part of the reason for Atlantic Canada's slower growth in emissions since 1990 is because its economy has grown more modestly. Real GDP in the Atlantic region increased by 44% between 1990 and 2006 compared with a 55% increase nationally.

Atlantic Canada accounts for less than 7% of Canada's GHG emissions with Alberta and Ontario representing almost 60% of the national total. However, when measured relative to the amount of economic activity (real GDP), GHG emissions are above the Canadian average in both Nova Scotia and New Brunswick and trail only Saskatchewan and Alberta in emissions intensity. A dependence on coal and oil for electricity generation is a significant factor behind the relatively high emissions in these Atlantic provinces. Newfoundland and Labrador is the fifth most emissions-intensive province due to its mining and energy sectors.

Atlantic Canada's total GHG emissions have fallen since 2004, down 13%, with large decreases in New Brunswick and Nova Scotia. APEC estimates that over half of this decline is due to lower emissions from electricity generation, which fell by an estimated 19% between 2004 and 2006. In New Brunswick, high oil prices have encouraged increased imports of cheaper power from Quebec and the United States. However, more than half of the regional reduction in electricity-related emissions in this period is due to lower demand. Numerous mills in the forest sector have closed or temporarily shut down since 2004. In particular, a ten-month shutdown at a Nova Scotia paper mill significantly reduced electricity demand in 2006 but generation rebounded in 2007 with a similar impact expected on GHG emissions.

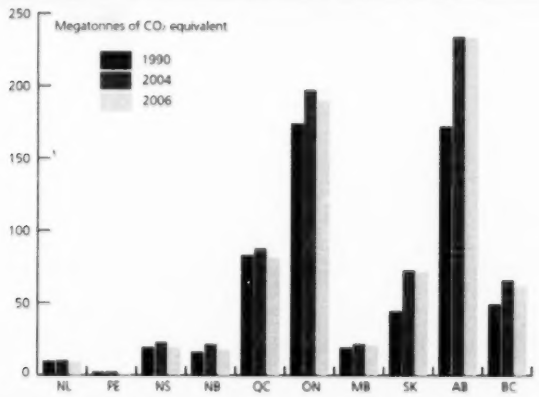
Much work is still required to achieve long-term emissions targets. Environment Canada's reference case projects that national emissions will increase by 24% between 2006 and 2020 under business-as-usual assumptions, with increases in the Atlantic provinces ranging from 6% to 58%. The current federal government's *Turning the Corner Plan* aims to achieve a 20% reduction in GHG emissions below 2006 levels by 2020 with about half of the reduction coming from large industrial emitters. Nova Scotia has legislated to cut its GHG emissions by 10% below 1990 levels by 2020, equivalent to a 15% reduction from 2006 levels.

Energy Emissions Dominate

The combustion of fossil fuels to produce energy for industry, households and transportation accounted for 90% of emissions in Atlantic Canada in 2006, emphasizing the need for environmental policy to be fully integrated with energy, economic development and transportation policies. The remaining emissions largely arise from waste management (3.7%) and agriculture (3.3%), although in Prince Edward Island agriculture accounts for 24% of all emissions.

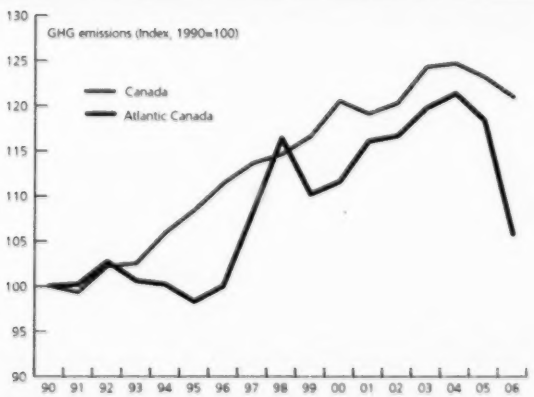
Emissions from fossil fuels consumed during electricity generation are the largest single source of GHG emissions in Atlantic Canada as a whole, representing 35% of all emissions in 2006. By comparison, emissions from fuel consumed by commercial and industrial facilities amount to 6.3% of total Atlantic emissions with the residential sector contributing a further 4.8%. Significantly, emissions from electricity generation grew by 42% in Atlantic Canada between 1990 and 2004, much faster than nationally.

GHG Emissions By Province



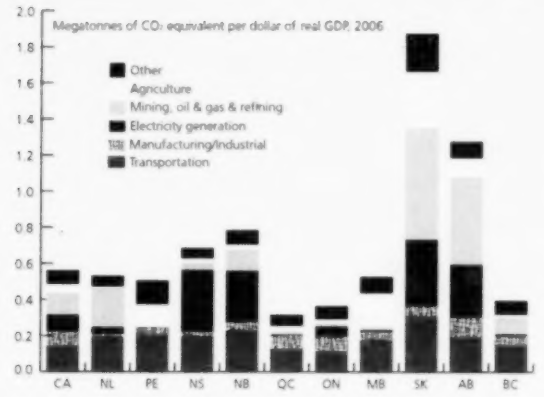
Source: Environment Canada.

Have Atlantic GHG Emissions Peaked?



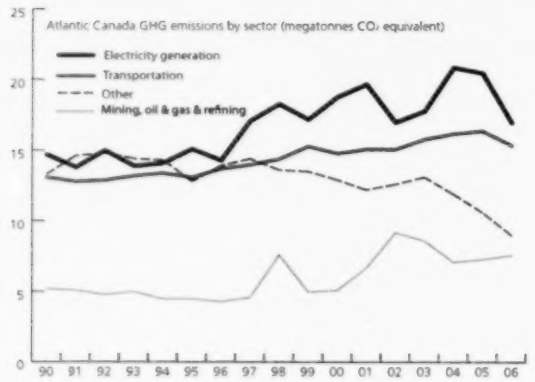
Source: Environment Canada.

Energy Sectors Explain Main Provincial Variations in GHG Emissions



Source: Environment Canada, Statistics Canada, APEC

Energy Production and Use Drive Atlantic Emissions



Source: Environment Canada, APEC

There are significant variations in electricity-related emissions by province. Electricity emissions in Prince Edward Island are negligible as the Island imports most of its power from New Brunswick and is generating increasing amounts from wind power. Electricity-related emissions represent only 7% of Newfoundland and Labrador's emissions as the province relies almost exclusively on hydroelectricity.

Electricity generation represents 50% of all emissions in Nova Scotia and 36% in New Brunswick. In Nova Scotia, 63% of its generation in 2006 came from coal compared with an 18% share nationally. In New Brunswick coal and refined petroleum products accounted for 34% of total generation in 2006 but the province's larger industrial base requires over 50% more power than in Nova Scotia. Both these provinces are looking to increase the amount of generation from renewables with plans to add a combined 636MW of wind power between 2007 and 2010, which would represent about 11% of their current electricity production.

Transportation Emissions Rising

Emissions from fuel consumed during transportation are the second-largest source of GHG emissions in Atlantic Canada as a whole, accounting for 31% of all emissions in 2006. Gasoline burned by cars and pick-up trucks accounts for almost 14% of total Atlantic emissions with diesel used by the trucking industry contributing a further 6%. After electricity generation, the transportation sector was the second-largest contributor to the increase in Atlantic emissions between 1990 and 2006 as greater emissions from larger vehicles and heavy trucks more than offset a decline in emissions from cars. This partly reflects increasing numbers of truck sales (which includes minivans) in Atlantic Canada which increased 48% between 1990 and 2006 while car sales declined 7%. Recent increases in fuel prices may reverse this trend. In June, truck sales in Atlantic Canada were down 15% from a year earlier, representing the lowest share of motor vehicles sales in more than a decade.

Large Industrial Emitters

Seven of the ten largest emitters in the region are power stations, with the largest single emitter, Nova Scotia Power's Lingan Generating Station, producing 21% of Nova Scotia's total emissions. Irving Oil's refinery and the Belledune Generating Station, the two largest emitters in New Brunswick, together represent 33% of that province's total emissions. In Newfoundland and Labrador the two largest emitters are the North Atlantic refinery and the Iron Ore Company of Canada mine in Labrador, which account for a combined 23% of the province's total emissions. The three producing offshore oil projects have added significantly to Newfoundland's emissions over the last decade, although much of the oil is shipped to other Canadian and U.S markets. Further growth in export-driven energy and mining projects will add to Atlantic Canada's industrial emissions over the next decade.

Conclusion

Policymakers face a tough challenge to reduce GHG emissions in the Atlantic region without stifling growth in export-focused industrial sectors. Higher prices will help to discourage energy consumption throughout the regional economy but the size of this impact on total emissions is currently unknown: businesses and consumers need time and money to invest in new energy-saving solutions. New wind farms will help displace some Atlantic emissions but a significant reduction in dependence upon fossil fuels will require investments in new clean capacity or transmission to access clean energy from elsewhere.

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5121 Sackville Street, Suite 500, Halifax N.S., B3J 1K1

(902) 422-6516 (phone), (902) 429-6803 (fax), info@apec-econ.ca (e-mail), www.apec-econ.ca (website)

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